

Abstract

In a wireless broadband system comprising a base transmitting to a plurality of subscribers, means for achieving an interactive bi-directional system comprising transmitter means in the subscriber system for transmitting signals which are orthogonal to the signals transmitted from other users arriving at the base station. A method for achieving an interactive bi-directional system comprising the steps of: A. using a subscriber transmitter with an upstream physical layer based on the use of a combination of Time Division Multiple Access and Orthogonal Frequency Division Multiple Access; B. dividing the upstream into a number of "time slots" as defined by the MAC layer; C. controlling, in the MAC layer, the assignment of subchannels and time slots by bandwidth on demand and Data Rate on demand.

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